THE ENERGY SECTOR OF MONGOLIA

A STATUS REPORT

Paul Teleki

April 2003

Prepared for Development Alternatives, Inc.
under USAID sponsorship

TABLE OF CONTENTS

EXECUTIVE SUMMARY

The purpose of this report is to summarize the progress of the EPSP energy sector restructuring and to offer suggestions for further improvements by either governmental or donor actions. The principal issues investigated, as specified in the Statement of Work, are reflected in the headings of the chapters following. The critical aspect of this review is to gauge whether the progress can be denoted in terms of quantifiable results. To put this into perspective, a recount of past technical assistance plans and activities is briefly mentioned herein because they are indicative of how fast or slowly reforms can be implemented depending on the policy directions chosen.

It is of the opinion of the writer, that a considerable amount of progress has been made by the government in implementing the energy law, in establishing the Energy Regulatory Authority (ERA), in unbundling the former Energy Authority, and in corporatising and commercializing the resulting sector companies. In fact, the government has taken the guidelines of the energy law, calling for separate licenses for each activity, as the canon for restructuring, perhaps to the extent that some of the resulting 18 enterprises are too small to be financially viable. It is possible that some mergers might have to take place.

The government has not always taken the advice offered by the USAID-sponsored technical assistance. An example is the delay in adopting a model for the structure and operation of the industry. This, fortunately, has been rectified by the ERA, and the government has accepted the model. The other example is the Cash Settlement Method (CSM) that was not recommended to the government. It is a solution, invented by the Ministry of Infrastructure (MOI) unique to the Mongolian energy sector, but alternate solutions have not been forthcoming. Until the current situation of technical shortcomings (e.g., lack of metering) are corrected, the ability of suppliers to suspend or terminate service to non-payers will linger for some time. However, as collections improve the CSM can be phased out gradually.

The ERA has done as well as it could under the circumstances of political accommodations. It has for the larger part preserved its independence of decision-making, perhaps at times to the extent that it created friction for lack of consultation with appropriate counterparts in the government. It had to institute a licensing regime and rule-making in a confused legal environment, due to laws in conflict with the energy law. The ERA has to operate in an economic and fiscal environment of the companies it regulates that is heavily tilted toward preserving service while dealing with indebtedness, lack of capital for improvements, existence of technical losses and theft, deficient collections for service and interference of other governmental agencies. This is not an easily manageable situation. But the ERA has followed up on all technical assistance recommendations and those, hopefully, will allow the agency to improve its working knowledge, judgement and regulatory management of the sector. To this end it needs continuing assistance from USAID and in no small part for reasons that it prevents others from interfering much in its affairs.

Controversies also have surrounded the Single-Buyer Model (SBM) adopted by the ERA. This, again in the opinion of the writer is a workable model, recommended at the outset in 1998, and it can be made flexible enough to introduce some level of competitiveness and efficiency into the system of operations, costs and prices. This topic is discussed in much detail in the text.

What is needed to be done in the next three or so years is to ensure that the foundations laid down by law are fortified, rather than dismantled. As a result, the writer suggests that the energy law with all of its (mostly minor) deficiencies is allowed to stay untouched for another year. This is important to both the companies and the regulator; they cannot deal with yet another system that could be introduced. Also, there is some apprehension that special interests could change the law to codify now questionable organizations and practices. The ERA needs steady assistance, more so than it has received, reviewing and correcting all rules and regulations for conformance to international practices, advice on yet outstanding topics such as consumer relations, public relations, and public hearings and other tasks. Training and exposure to other countries regulatory systems is a key element. More importantly, technical assistance must be interactive with governmental decision-makers, and not consist simply of on-site training and document preparation.

Commercialization of the unbundled companies has not been completed. This is not unexpected; there has to be time for change in corporate culture. While four companies(as funds permitted) received technical assistance to assist the transformation, others have little knowledge about managing a company in a commercial mode. Some operate as a divested former state enterprise, others have had more initiative. The technical assistance given has been heavily oriented toward financial review and suggestions for financial restructuring, accounting techniques and billing and collections, all useful as the companies are struggling with liquidity, lack of working capital, and inadequate cash flow. None of this will flow freely to other companies not on a receiving end. Thus, technical assistance will have to be repeated company by company, even if on scaled-down fashion, an in the course local consulting expertise will grow also and participate in this effort. Aid will have to be expanded to other much needed training and demonstrations, on site, specifically in corporate management, corporate planning, risk assessment, marketing and most importantly corporate governance that boards of directors need to understand. At this time, boards are no more than representatives of government agencies' agendas.

If USAID is willing, at least two or three companies could be scheduled for turn-around management. This had success in the banking sector; it should be successful in the energy sector as well. "Work-outs" or hands-on turn-around management would improve the value of the entities, and make them more attractive to private investors, i.e., the reserve price on privatization tenders could be higher. The other option, recapitalization, recommended earlier, is not within the realm of possibilities, given the indebtedness of the sector to international financial institutions.

INTRODUCTION

In 1998, the initial technical assistance work plan called for assisting the government to develop an energy policy. Due to hesitation by Parliament, the topic was postponed time and time again, until there was a call to replace the then current energy law. USAID assistance helped write a draft electricity law and upon concern that district heat and hot water supply would not be regulated, a so-called draft thermal energy law was delivered in late 1999. Subsequently, the Ministry of Infrastructure (MOI) decided to combine the two laws into an Energy Law. A considerable effort had to be expended in convincing the MOI to resurrect the concepts put forth in the draft electricity and thermal energy laws, specifically those that promoted unbundling the Energy Authority's (EA's) holdings and the replacement of self-regulation by the EA by an independent regulatory agency. The resulting new Energy Law was enacted by Parliament and became effective in April 2001. In it, Parliament chose to forego setting a policy for the sector including defining the structural model for the industry, developing a restructuring plan especially concerning the problems of liquidity in the sector, and developing a cohesive commercialization and privatization plan.

The government's attempt to address energy policy is still rudimentary. The document entitled "Mongolia's Sustainable Energy Sector Development Strategy Plan –2000-2010" prepared by the MOI is based in part on the energy master plan prepared by Elektrowatt-Econo Ltd. of Switzerland[1] and in part on recommendations of the World Bank. The MOI document, however, is more of an outline of potential tasks without a framework and does not specify procedures, deadlines, management and reporting responsibilities, nor does it say much about attainable goals, costs and alternatives. There is no evidence that this policy has been endorsed by Parliament.

The policy paper endorses resolving fiscal arrears in the energy sector, reducing losses, establishing an independent regulatory environment, restructuring, commercialization and phased privatization of energy sector companies, and introducing life-line tariffs. These are all topics that USAID-sponsored consultancy has been dealing with for some time, and some of these, such as arrears, require the resolve of the government, both for having incurred them and for reasons of stewardship. Deficiencies in the MOI energy policy are notable: the rural electrification plan is based part on an unaffordable extension of the electric grid to four aimag centers, a call for use of renewable (wind) energy is without sufficient background on resource distribution and utilization potential, pollution reduction is without reference to the Kyoto agreement and tradable CO_2 credits, there is no plan to renew negotiations for participation in energy trade between Russia and China (oil and gas pipelines, high voltage electricity transmission), nor a mention of plans for speculative geophysical surveys for oil and gas exploration of a large portion of Mongolia for which a permit has been issued by the Petroleum Authority. The last topic show unequivocally that the energy policy is just an MOI and not a government policy as petroleum is in the portfolio of the Minister of Trade and Industry.

[1] Elektrowatt-Econo Ltd. et. Al., 2002, Capacity building in energy planning, Final report for the Asian Development Bank, Project TA-3299-MON.

Even without such fundamental guideline as a policy, the Mongolian energy sector has undergone a major transformation during the past five years due to considerable pressure from donor organizations. From a structure operated according to State planning and management, the sector is now beginning to move toward a more market oriented system. Three steps made this possible: the enactment of a new Energy Law, the establishment of the Energy Regulatory Authority and the unbundling of the centralized system into 18 separate corporations. Obstacles to reform have been assuaged to a large extent, especially those that can hinder planned privatization of the energy sector companies: political risk, regulatory risk and economic risk, but financial risk remains. Political risk has been minimized by the stability of the governments during the past several years and fears of future expropriation should be minimal. Political and regulatory risk reduction is essential before investment takes place in an infrastructure sector, because this sector usually require large irreversible investments that have a large maturing time and generate substantial social concern regarding the price and quality of services[2]. Regulatory risk has been lessened by establishment of the Energy Regulatory Authority (ERA), albeit there are still vestiges of interference with its legal mandate, and some elements of central planning and management still exist in the sector at odds with the intent of the government. Economic risk is present but at a lesser extent due to the government adopting more stable macroeconomic and foreign investment policies, together with steps of moving toward increased private ownership of state enterprises, the expression of which has been the unbundling and commercialization of the energy sector and plans to privatize some of these assets. Financial risk is still high, thus, the government is trying to transfer this to future private owners through sale of assets. It is to be seen whether this will work with what, technically speaking, are insolvent companies due to historical (accrued) debt.

The purpose of the EPSP power and heat sector reform project has been to promote development of conditions that will be conducive to introducing market conditions and replace state ownership with private ownership. To this end the following objectives had been set out:

- *Restructuring the vertically integrated State enterprise – unbundling into independent entities;*
- *Establishment of an energy regulatory agency to oversee operation of the entities on both commercial and technical bases;*
- *Setting up a licensing regime to ensure that commercial and regulatory commitments are honored and consumer protection is provided;*
- *Development of network operations and access rules;*
- *Development of cost-of-service based tariffs to allow for recovery of costs and to provide for new investments in the future, including the deregulation of fuel*

prices and contract prices between eligible consumers and non-regulated suppliers;

- *Development of a system competition in generation and perhaps in retail (supply) if economically warranted;*
- *Commercialization of the sector entities and preparation for privatization;*
- *Privatization of the State owned commercialized companies with level and timing determined by Government policy; and*
- *Introduction of social safety nets or mechanisms for low-income consumers to buffer the impact of reform, particularly new tariff and disconnection policies.*

These objectives are reviewed below for either having achieved them or not, and in case of the latter, in terms of barriers still to be overcome.

THE ENERGY LAW

The Energy Law of Mongolia is one of the most progressive laws among those enacted in post-socialist countries, and most specialists in legal frameworks for electricity sectors agree with this assessment. The government views this law as very important to its efforts in commercialization and eventual privatization of the power sector, that, at the same time, has also reduced the cost of governmental oversight. The cornerstone of the law is a licensing regime for each power and heat sector activity. This gave rise to unbundling, that is, the disjoining of generation, transmission, dispatch, distribution and supply of electricity and heat into distinct commercial entities. The other key provision of the law has been the establishment of a regulatory agency (the ERA) and its rate-making responsibility. The endowment to have an independent body set prices is quite rare in post-socialist countries and even in many developed countries, notwithstanding how strongly advocated by some reformers.

As a whole, the government has done well in implementing provisions of the law. The Working Group On Energy of the Standing Committee on Economics, being a guardian of the process of implementation, has reported, in May 2002, no conflict between rule-making and the law, although some deficiencies in issuing resolutions by the ERA or decrees by the Ministry of Infrastructure (MOI) were noted. These, as well as others found in the course of this review, are described under the section dealing with the ERA.

From the Mongolian perspective, the law has other merits beyond just an unbundled industry. It has made the financial situation of the industry transparent in regard to its cost structure, entity by entity, and that allows better oversight and more rational price setting. The law's requirement for obtaining operational licenses provides for clearer responsibilities and liabilities in case of non-performance. Enforcement is still to be tested and the law is weak on assessing significant penalties. Relations between suppliers and consumers have been modified. The law provides a much needed enforcement tool for dealing with non-paying consumers due to its clauses on the ability to suspend or

terminate supply. Although this tool is in existence, still there are problems with disconnecting consumers due to the technical nature of the distribution system and also due to still extant political meddling. The law has changed the manner in which tariffs are formulated by setting out a firm methodology and by allowing prices to be set based on the principle of least cost, albeit this principle still has to be turned into practicable form especially with respect to the supply of heat which will likely be never economical. Further, as long as the government continues to set the price of fuel (coal), rather than the market determining the price, the least cost requirement for electricity prices will unlikely to be met.

The energy law has been based on a draft electricity law and a draft thermal energy law prepared jointly by technical advisors of the USAID project and Mongolian counterparts. Prior to its enactment in 2001, several changes were suggested by USAID advisors to Parliament and most of the recommendations were accepted. As a result, an endorsement to proceed with enactment was made to USAID in February 2001, even though a few objections and reservations were still outstanding (Appendix 1). After its enactment, amendments were made to the energy law on November 30, 2001 rescinding the right of the Ministry of Infrastructure to set guidelines on licensing and on issuing import and export licenses, and again on July 4, 2002, to the law with respect to consumer liabilities and to remove inconsistencies with the Civil Law, both of which were salutary. However, a few provisions remained still thereafter due to their misunderstanding or misinterpretation at the time of passage, others due to political expediency, and still others due to lack proper codification relative to other acts. These represent deficiencies that should be rectified by amending the Act.

The more significant deficiencies and potential remedies are as follows:

- Article 10: The National Dispatch Center (NDC). The stated functions of NDC concerning implementation of projects, providing technical and methodological assistance and organizing training are unsuitable for such commercial organization and the entire article should be deleted. The reasons for their inclusions lay in the insistence of the MOI to include roles of the Energy Authority (EA) initially in another organization. These rules have been subsumed by the Fuel and Energy Authority (FEA) albeit not legally.

- Amendments to the role of the dispatcher should include; a) reinstating the definitions of dispatching and ancillary services, b) modifying Art. 19.3 to state that the dispatcher shall estimate the amount of imported electricity relative to demand, c) provision to prevent sudden disruptions in load management due to large number of disconnections without informing the dispatcher.

- The definitions for connection points should be reinstated in the law. There is confusion about where the ownership and responsibilities for maintenance by suppliers (distribution companies) ends and the consumer's begins. This will help in issuing correct connection rules.

- The removal of Art. 9.1.1. of the Energy Law on November 30, 2001, due to a conflict with the Law on Operational Licenses for Business Activities (of February 1, 2001), makes it difficult for the ERA to set requirements for licensees unequivocally and to qualify licensees. This provision has to be reinstated as the empowerment it provides will be needed more resolutely when companies become privatized or when proposals are made to construct new energy facilities.

- Another conflict with the Law on Operational License for Business Activities prohibits licenses to be granted for longer than three years. This has created a situation whereby permanent licenses could not be issued by the ERA (except by choice of the ERA the license of the electricity dispatch company was granted for 10 years). Such incompatibility in the legal framework also makes long-term investments in the energy sector impossible. The Law of Licensing Business Activities has to be either amended stating that the Energy Law has precedence, or Art. 15.8.1.- 15.8.3 need to be deleted from that act.

- The structure and level of penalties and the allocation of powers to issue fines has become, respectively, more unworkable and murky. First, the level of fines and the fact that individuals rather than corporations are fined is a unique Mongolian approach but it is no more than a mild slap on the hands. The ERA needs real enforcement and penalizing powers of such monetary value that non-compliance would not be repeated. These powers will be even more significant when ownership has passed, fully or partially, to private owners on the enterprises, that is when influence of the State has diminished.

- Article 32 covers inspection. At this stage, the roles of "state inspectors" of the ERA (the three commissioners) and the State inspection authority (SSSA, now under oversight of the Cabinet) have become hopelessly intertwined, as both claim broad powers, the latter according to the Law on State Supervision of January 2003. Any amendments to the energy law should separate technical inspection for purposes of safety and certification (by SSSA) from the operational, financial, and other "inspection" of licensees' activities by the ERA. Additionally, the SSSA now believes it can scrutinize the ERA's activities (Appendix 5).

- The law in not explicit about the structure of the industry. This shortcoming was rectified when the ERA adopted the Single Buyer Model (SBM) and the Minister of Infrastructure approved it by Decree 240 on August 15, 2002. This topic is discussed below. There is no need to amend the law to specify the model, but once transmission is separated from the wholesale function (see the section on the SBM, then Art. 16.8.3 should be changed to reflect that the distribution license holder shall contract for power and heat from the wholesale licensee only (the single buyer), rather than from both the transmission and generation licensees, after the wholesale function is separated

from transmission). Until such time, an ERA resolution should be adequate to address this matter.

- The law prohibits the transmission licensee to have a distribution license, and this is relevant to both electricity and heat. The Ulan Bator heat supply company (UBHDN) claims to be a transmitter also and for its purposes would like to see this provision altered relative to heat. Instead, it would be better if the ERA issues two licenses upon verifying that there is a recognizable heat transmission and dispatch function (it appears that heat is sold at "the gate", that is at the CHP plants).

Even though the above list illustrates that there are enough arguments for introducing changes to the energy law, its recommended that **such changes be not made** at this time. Neither the ERA, nor the companies are willing to deal with the risk that the legislators could be tempted to introduce language to support special interests, one of which may be ensconcing the Fuel and Energy Authority (FEA) in the law, the other combining it with the telecommunications regulatory body, yet another a proposed experimentation with more (and even part-time) commissioners. Further, there is a well-regarded need by both the companies and the ERA for stability in the current system that they must make comprehendible, functional and as effective as possible, meaning to complete setting up the regulatory regime and become accustomed to it.

A point of criticism has been made about the ERA, but it is not exclusive to that organization. There is a general tendency in Mongolia not to adhere to the letter the law, or better said, to "work around it". Part of the problem is the very poor codification by the Ministry of Justice, so that laws are invariably inconsistent, that is, in conflict and contradiction with one another. Because the legal system in not interpretive, there are two ways by which this problem is handled in practice: assume that you have the right to proceed in a manner chosen or ignore the language of the law. In countries where the wording of legal acts is a determining factor in what the secondary legislation can or cannot promulgate, correcting the law would be critical. In Mongolia this is, for now, not the case.

It is not outside the realm of the Energy Regulatory Authority (ERA) to resolve conflicting language or fill in voids by means of regulatory resolution. The ERA has practiced the latter. This practice, according to some objections, has to be rectified by formal means as to prevent the ERA to expand beyond its authority. For now, there is no evidence of such intent. On the obverse, courts in Mongolia view secondary legislation as irrelevant, and the issuer of such the same. This has caused much nuisance for the ERA, but it is no worse than ministerial orders that are not followed and have be issued repeatedly. Judicial reform in this context is much needed.

What parliament could do in the interim period is to modify other Acts conflicting with the Energy Law. The first of these should be the Law on Operational License for Business Activities. It can also investigate the powers assumed by the State Special Supervision Agency, or rather the language of the law setting up this agency. More is

said about this later in this report. Another improvement should be to extirpate clauses penalizing individuals rather than corporations for non-compliance differentiating them from personal acts of malfeasance and felony that belong to criminal judicial proceedings.

THE STATUS OF THE ENERGY REGULATORY AUTHORITY

The ERA has performed considerably better than expected under a governmental system still trying to divorce itself from ingrained habits acquired during the communist era, these being mostly central planning and direct interference in the operation and management of companies and government agencies. The energy law set the ERA up as an independent authority. While no regulatory body can be totally independent, that is, operating without regard for general governmental policies, the ERA is determined to ensure its autonomy on decision making, which in comparison to similar regulatory bodies, such as that for telecommunication, does not exist or cannot be implemented. To this extent, it must develop the reputation for fairness, timeliness and correctness in dealing with consumers, licensees and government, and its must distance itself from its former relations and still dominant influences, such as the Ministry of Infrastructure.

The authority has not been treated well; its offices are appalling, its budget requests are not granted, its ability to hire additional staff is blocked and its wage scales are perfunctorily low.

Importantly, the power industry views the ERA as a lawful body, helpful and cooperative in matters of concern to the companies. Complaints are mostly in respect to the ERA requesting too much information – too much paper work. Initially the authority needed to gather ample information about the companies' operation and financial situation, but the ERA ensures that from now on, it will request data only annually. The companies actually object less to these requests than those issued by the Fuel and Energy Authority (FEA) whose activities are more intrusive (see below).

The ERA has to change its modus operandi as the crisis surrounding its price rises last summer illustrate it well. First, its must adhere to the intent of energy law by never initiating price adjustments on its own accord, no matter how propitious the timing may be, but only upon rate change requests filed by the companies. Secondly, its actions must sustain broader governmental policies and objectives. Thirdly, it must effectively reach out to the public for their clearer understanding of its mission and the tasks its must solve. A significant improvement it could make is to comprehend that tariff adjustments are the most sensitive of all matters undertaken, and it needs to confer on a regular basis with those involved in macroeconomic policies, namely the Parliament and the Ministry of Finance and Economy, because any changes in tariff levels have various impacts on the economy, such as the cost of manufacturing or the ability to compete with exports, and the government cannot be faced with a *fait accompli*. Simultaneously, the ERA must enlist the understanding if not goodwill of the populace. It cannot, and should not promulgate tariff changes without ample consultation, and preferably public hearings. The lack of consultation with either will be perceived as capriciousness or forceful

behavior that can undermine its reputation for fairness to both industry and consumers alike. This has been a repeated criticism on part of members of Parliament. To this end, it must consult more frequently and effectively with its Consumer Advisory Council regarding its proposed actions. This council, that has two representatives of industry and two of the consumers, has not been effective so far. The ERA chairman intends to turn over the chair of this council to one of its members in order to properly distance himself. Additionally, the ERA has to undertake a public education campaign and this, together with consumer complaint handling and public hearing procedures will require expertise and training.

The ERA ensures that gaining the confidence of both "clients" are now on the forefront of its agenda. There will be greater collaboration with the Ministry of Finance and Economy in terms of understanding impacts of the agency's action. However, it is still too much under the influence of the Ministry of Infrastructure, seeking approvals for its actions within its own portfolio of responsibilities, rather than having a more formal relation between the energy policy-making body and the rule-making body. That could be changed by changing in the law the responsibility of appointing commissioners from the Ministry's nomination and Cabinet approval to Cabinet nomination and Parliament's approval.

PROGRESS IN REGULATIONS AND TARIFFS

Since it inception, the ERA has granted 27 operational licenses, promulgated tariffs, developed and put into use various rules and regulations, some by resolutions. The description of licenses and other rules are listed in the table below.

The checkmark indicates completion as of rules or issuance of a license. The symbol N indicates that such .license or rule still has to be developed. N/A indicates that the subject document has not been prepared as there is no current need for it.

Description Licensing	**Companies**	**Status**
Electricity Generation	UB2, UB3, UB4, Darkhan PP, Erdenet PP, EES, Dalanzadgad PP	✓
Electricity Transmission	Central Trans., Western Trans	
Electricity Dispatching	Nat. Dispatch Center	✓
Electricity Distribution	UB4, EES, UBEDN, Darkhan, Erdenet, Baganuur, Dalanzadgad, Khovd, Bayan-Ulggi, Nolgo Co., UB railway, Uvs, Ulaangom, Erdenet copper mine, Sukhbaatar-Erchim Co.	✓
Electricity Regulated Supply	UB2, UB3, UB4, EES, UBEDN, Darkhan, Erdenet, Baganuur, Dalanzadgad, Khovd, Bayan-Ulggi, Nolgo Co., UB railway, Uvs, Ulaangom, Erdenet copper mine, Sukhbaatar-Erchim Co.	✓
Electricity Import and Export	Central Trans., WES, UB Railway, Dornod Branch of Central Customs Office	✓
Unregulated Supply		N/A

Heat Generation	UB2, UB3, UB4, Darkhan PP, Erdenet PP, EES, Baganuur (heat only), Dalanzadgad PP, Erdenet copper mine	✓
Heat Transmission		N
Heat Distribution	UB3, UB4, Erdenet, EES, UBHDN, Baganuur heat, Dalanzadgad, Erdenet copper mine, 11 small companies	✓
Heat Supply	UB2, UB3, UB4, Erdenet, EES, UBHDN, Baganuur heat, Dalanzadgad, Erdenet copper mine, 11 small companies	✓
Interim Construction License		N
Final Construction Licenses		N
Grid Code		
Central System Grid Code		N
Electricity Consumption Rule		
Interim Rule		✓
Final Rule		N
Heat Consumption Rule		
Interim Rule		✓
Final Rule		N
Connection Rule		
Electricity Transmission	Central Trans., WES	✓
Electricity Distribution	UBEDN, Darkhan-Selenge, Erdenet-Bulgan, Baganuur, Khovd, Ulaangom, Bayan-Ulgii, UB Railway, Nolgo Co. EES, Sukhbaatar-Erchim Co., Dalanzadgad, Erdenet copper mine, MCS International Ltd.	✓
Heat Distribution		✓
Business Rules		
Supplier-Consumer		N
Registering supply agreements		✓
Inter-licensee rules	All licensees	✓
Outreach		
Public hearings procedures		N
Public relations		N
Consumer relations		
Consumer Protection		N
Dispute Resolution		✓N
Complaint management		N
Administration and Monitoring		
Internal procedures		✓N
Tracking system (IT)		N
Inspection and Enforcement		
Inspection procedures		N
Penalty procedures		N

All licenses are considered interim on account of the conflict with the Law on Operational Licenses for Business Activities that unconscionably limits licenses to 3 years. Parliament recognizes this. The ERA, did, contrary to this law, issue a license of 10-year duration to the National Dispatch Center. All interim licenses will have to be

changed into permanent types using the terms of licenses as prescribed by the Energy Law. The ERA has scheduled to undertake this task during 2003. In this period, the ERA has to work with the remaining aimag and sum regulatory boards assisting them to developed their local licenses.

The agency's initial budget was based on a loan from the Energy Authority (now FEA), and that has not been paid back and this amounted to 235 million tugrik. Subsequent budgets for 2002 and 2003 are based on the service fees companies are required to pay. The budget requires approval of the of the MF&E, and this has been a contentious matter as the ERA's budget request is consistently scaled back; in 2002 it was cut by 20 million tugrik to 213 million tugrik, and in 2003 the request for 380 million tugrik was scaled back to 240 million.

The tariff methodology developed with technical assistance is working and there have been no complaints made about it, unlike the tariff levels. The tariffs now cover operational costs, including labor and social obligations, fuel cost, and loan service and provide a measure of return on equity. What they do not cover is amortization of accrued debt and if that were to be included, prices would have to be increased by at least 30 percent over the next five years. The ERA is intending to adopt a two-part tariff structure, consisting of capacity and energy charges, probably in the 4th quarter of 2003. This will expedite developing merit order (economic) dispatch, to replace the current pre-set bulk purchase prices where the cheapest producer, the UB 4 power plant, operates only as a load follower (see Appendix 4). Changes will have to be reflected in new power purchase and sale agreements (PPA's and PSA's) to be developed.

Although the aimags and sums, whose 22 boards have been appointed by the MOI, are supposed to set their own tariffs (for areas not connected to the central, western or eastern systems), in practice they are not able to do so without help from the ERA. A few licenses have been issued by the aimags but none have been reviewed by the ERA. The agency is planning to undertake a thorough educational and assistance program in 2003 through workshops an site visits.

A significant shortcoming, that has been elevated to governmental levels, is the ERA's isolation, that is, the lack of outreach program toward the public and its weak consumer relations and consumer protection programs. To rectify this, ERA commissioners should undertake a public education strategy already recommended for them through technical assistance[3]. Complaints about decisions made in isolation can also be mitigated by designing a public hearing process for decisions affecting the public at large. Tariff modifications and future siting and construction of energy facilities would be suitable topics. Although the draft electricity law included this procedure, the energy law does not. The ERA should investigate whether it can institute such a process without amendment to the energy law or other laws. Internally, the ERA is intending to make its Consumer Advisory Council more effective as a sounding board for intended resolutions. However, for its own effectiveness it needs to have more legal expertise in-house to

[3] Swartzbaugh, J., and Amarsanaa, S., 2002, Public education strategy for energy sector reform, Report to USAID, 24 p.

manage disputes and needs a better, and more formal tracking procedure to handle consumer complaints.

THE OPERATIONAL MODEL

Some controversy has surrounded the concept of the Single Buyer Model (SBM), introduced by the ERA in 2002. For starters, this is a model that did not appear "out of the blue", instead, it had been discussed with the power industry and government officials during 1998-99 as a suitable model to adopt at the start, and one that should be modified in time (then gauged to be 5 years) toward increased competition. This draft law stated the transmission "be an exclusive seller to Suppliers, except for sale of electricity by producers (generators)to consumers already connected directly to the producers". The ERA's role was to "introduce and promote competition in electricity production and/or supply", while producers could, after the 5-year transition period, "conduct electricity sales in competitive conditions, and not subject to regulated tariffs". By then, regulated suppliers could import electricity and the unregulated suppliers could import and export the same, and the transmission's right to do so would have ceased. However, the government, listening to other advice, wanted to move straight into competition at the end of 1999, fueled in no small part by the threat presented by AES which, had it succeeded in acquiring the assets, would have become a monopoly privately owned and difficult to contend with politically. Hence, the steps of transition from SBM toward competition were excised from the energy law being drafted (while the earlier draft electricity law was explicit about them).

Many developing countries have chosen the SBM during the transition to a market system. Among recent ones are Namibia and several states in India. Others practicing it are Armenia, Lithuania, Bulgaria and Hungary with the last of these moving toward a more liberalized system.

So what is an SBM? It is based on a single entity operating as a wholesaler (in case of Mongolia the transmission company) purchasing power from all generators and in turn selling the power to suppliers. The model's advantages are that

- Its is simple and has minimum transaction costs due to the uniform wholesale electricity price
- Easier balancing of supply and demand of electricity
- Avoids the need for an entity to handle third party access to transmission
- Expedites design of equitable bulk supply tariff so that no single supplier would get the entire of most of the benefits of lower cost power generated by one of the generators
- Facilitates planning of capacity augmentation which will be needed in Mongolia
- Strengthening of transmission systems is better coordinated and this should be taken into account if the government is intending to connect all transmission systems

- Splitting of existing contractual agreements with different generation companies is not necessary
- Shields generation projects from market risk and distribution-level regulatory risk.

Its disadvantages are

- Competition is non-existent or limited
- If demand falls short of supply, wholesale prices do not decrease if the amount of power purchased is fixed such as through a take-or-pay contract or regulated purchase amounts and this is current in Mongolia
- The buyer has no choice in seeking out the most economical source of supply
- Decisions about adding new capacity is made by government officials (and this is stated in the law) and the government will have give assurances to investors
- Supports the ability of the government to intervene in the payment chain from consumers to generators (see the Cash Settlement Method)
- The government can incur contingent liabilities upon privatization and from time to time will face renegotiation of contract terms.

Although these drawbacks can be overcome to some extent through the adoption of a competitive bidding system for power purchase by the single buyer and imposition of appropriate regulatory control, without the rate making authority's willingness to make adjustments, the arrangement could become permanent.

The European Union's Electricity Directive (that came into force in 1997) preferred the SBM in transforming national monopolies and even later modifications to regulated third party access (rTPA) mimicked the SBM[4]. To introduce the rTPA, transmission needed to be separated legally from the generators. This has been accomplished in Mongolia already.

In Hungary, the SBM was set up in 1994 that allowed private investors purchase existing power plants and build new plants and sell power to the state-owned utility which in this case was the transmission company. Distribution companies were also sold to private investors, and more recently dispatch was set up as an independent company completing the vertical and horizontal separation. This is mimicked by the Mongolian model. Although there has been some thought of privatizing transmission in Hungary, there have been no strong efforts to carry through with it, much as in many developed countries.

In Hungary as elsewhere also in EU and EU-accession countries, the next step is to introduce open access (third party access), whereby the generators are allowed to contract

[4] Newbery, D. M., 2002, Issues and options for restructuring electricity supply industries; University of Cambridge, Department of Applied Economics, DAE Working Paper WP-0210 and Massachusetts Institute of Technology Center for Energy and Environmental Policy Research CMI Working Paper 01, 47 p.

directly with distributors or large consumers without needing an intermediary (the wholesaler). Its merit is argued be that competition in generation brings prices down. However, this is a more complex model, whereby transaction and regulatory costs become higher, transmission system planning and development becomes more complex, and concern for stranded costs increase. The provision for access to the network is included in the Mongolian Energy Law (Art 13.1).

If an electricity market model is to be introduced, several tasks have to be accomplished: designing the electricity market, establishing market rules and regulations, dealing with vertical and horizontal separation of sector companies and privatizing distribution and generation. Contingent liabilities for the government are for the most part eliminated. However, new pricing issues emerge concerning transmission and use-of-system charges. Separation has taken place already in Mongolia by unbundling the sector. The rest of the changes should be considered in earnest when private investment into the sector and the appearance of new facilities (independent power producers) has shown a sign of success.

A fully competitive wholesale market, much as, e.g., Hungary is aiming for under EU directives, requires that an additional entity, a broker or "energy trader" be also set up for dealing in unregulated price electricity (not applicable to heat), while the wholesaler function remains to handle regulated electricity (see Appendix 2 and 3). Theoretically, competition could occur in generation or supply (retail), depending on the structure of the industry, the regulatory system and the relative costs making up the tariffs. For instance where most of the costs are attributable to generation, its is better if competition takes place in that sector. If it is to be retail (which is just being introduced by a few States in the US), then distribution and supply have to be separated.

Mongolia's power industry is far too small and its generators are far too diverse in age, technology, capacity and cost structure to be able to compete with one another. Only if new generation, on par with the fourth power plant (UB 4), were to be established, could some notion of competition in generation be entertained, but special provisions would have to be maintained for UB 2 and UB 3 (unless they were to be closed down). The further complication is that in Mongolia power cannot be separated from heat, all generators being CHP's (combined heat and power), and as long as heat prices cannot reach economic levels, power will subsidize heat and hot water for some time to come. This makes competition in electricity generation much more cumbersome to regulate.

Competition in retail is also gaining ground in several countries, albeit all of them more advanced than Mongolia (England and Wales, Argentina, Sweden and now some states of the U.S.). This may be possible to introduce, in time, in Mongolia, but not now. It will require separation of the distribution and supply functions and although the energy law makes room for it by separate licensing and by allowing unregulated suppliers to exist, this would be too drastic a step at this time. None of the former socialist countries are willing to experiment with retail competition. It a common belief that competition in the retail sector cannot be effective without the same in generation.

So what is in the store for Mongolia's current structural model? Some gradual changes can be and will be made to the SBM and the ERA is looking at options. First, the two-part tariff structure will be introduced as recommended by the USAID consultants with charges separated for availability of power and for the energy delivered. This will improve transparency of the cost structure at each generator and can lead to differentiated prices. This should bring about economic dispatch. Upon accomplishing that, two-part (capacity and energy charge) power purchase contracts (PPA's) can be set up between the single buyer and the power plants[5]. This should lead, in time, to power sale agreements (PSA's) with the distributors, although as long as all prices remain regulated, such agreements represent no more than a formality. The second improvement can be made by separating the transmission function from the single buyer function legally and administratively, in effect setting up a separate wholesaler function. This step foreordains separate accounting for each activity, and this requirement is already prescribed by the energy law. Separation may be accomplished by promulgation of an ERA resolution now, and subsequently, when the energy law is modified, definitions, requirements for a license and a description of obligations can be added to the Act to formalize it further. The third improvement would be to remove the cash settlement management responsibility from the transmission company altogether. This activity is an accounting and disbursement function that the bank (now the Savings Bank) can handle alone, with data to be provided by the dispatcher, whose law-given tasks are to balance supply with demand and monitor suppliers' contracts. But to phase out the entire cash settlement scheme, greater pressure must be put on the suppliers to collect revenues to avoid bankrupting the single buyer or themselves. Unless this is done, the government will be forced to turn again to IFI's (international financial institutions) whose reluctance to lend is increasing as they view such lack of improvements in performance no different than those under the Soviet style economies.

It would behoove the ERA to issue more detailed resolutions about what is expected of each licensee with respect to the SBM. This should clarify roles, as the obligations need to be more stringent when ownership is no longer by the State.

To quote Newbery in discussing investors' confidence in the country of their investment and reflecting on the California crisis: "It is, therefore, little comfort to argue that SBM risks can be avoided by liberalized electricity markets, as too many countries lack the necessary preconditions to make that a plausible solution."[6]. For now, the SBM should stay, should be gradually modified and collections improved to reduce further rate hikes that subsidize delinquent consumers.

[5] This is not critical until such time that generators are privatized. Then, new owners of the independent power plants (IPP's) will demand strong guarantees from the government.

[6] Newbery, D. M., 2002, Issues and options for restructuring electricity supply industries; University of Cambridge, Department of Applied Economics, DAE Working Paper WP-0210 and Massachusetts Institute of Technology Center for Energy and Environmental Policy Research CMI Working Paper 01, 47 p.

EVOLUTION OF MARKET STRUCTURE AND COMMERCIALIZATION

Unbundling of the power sector has produced 18 companies that vary in size, equity, cash flow and management. The most useful aspect of this exercise was that, in one step, the entire monolithic system was dismantled and relations could be set up on quasi-commercial terms, or more accurately, on terms of independent enterprises of equal rank. In this process, transmission was separated from generators, in many countries a difficult task, and with that it has been easier to set and regulate transmission charges. In fact, transmission, receiving full cost recovery opposed to others from the cash settlement process, has been profitable. This also prevented collusion between generating and transmission arms of the same enterprise, so often practiced elsewhere.

The government also accepted the advice given by consultants in 2000 to move the subsidies for rural systems from the EA to the MF&E. Its is a different matter that the subsidies are neither adequate nor are they disbursed on time.

The market structure is governed for now by the single buyer model. The structure needs to be more formalized by proceeding with power purchase and power sale agreements (PPA' and PSA's) with the single buyer (wholesaler) and all relevant rules should be adjusted to recognize the model[7]. The structure can also be liberalized. By separating the wholesaler function (even if by separate accounts only), the transmission licensee's activities become restricted to only transmission of electricity (referred to the "wire business") and can make room for further changes, such as introducing competition for unregulated power, while the wholesaler continues to deal in regulated power.

An obstacle to such changes is now the CSM, one that created a controversy as standing in the way of moving toward a market mechanism. The criticizer was the World Bank, but upon querying it for alternate solutions, and learning that the sector companies were satisfied with it, it backed off. It is an unusual solution, and unhappily it is the only method that ensures a balance between receipts and generation costs. The CSM is basically a way to allocate cash receipts to licensees in proportion to their volumes and relative tariffs. It was devised primarily to overcome the problem of distribution companies retaining a disproportionate share of collections in relation to generators (see Appendix 5).

The ERA intends to phase the CSM out, and this timeline is said to be one by year's end. In fact, it could start by separating the CSM out also into a separate entity, or altogether transferring the responsibility to the Savings Bank, while the dispatcher provides data on allocations based on its responsibility to monitor supply contracts,. Unfortunately, this is unlikely to be accomplished as the CSM was created to compensate for lack of full payment by consumers, and that situation is unlikely to change until all consumers are individually connected and therefore can be disconnected. In the ger districts, this will take a long time to achieve for technical and economic reasons, even if so-called non-technical losses (theft) is eliminated.

[7] The ERA is also modifying, based on requests from companies, the Business Rules and Connection Rules with respect to the SBM.

The companies are at best incorporated but far from commercialized. Although each has separate executive management and boards of directors, not much progress has been made in moving away from prior practices, that depend much on their relationship with the government, now exercising its will through the boards as owner. Members of the boards are appointed by the MOI, MF&E and the SPC. The boards of directors are generally not supportive of the companies' aims to instill commercial practices and improve the lot of the employees, for reasons that the board members are junior civil servants for the most part and carry only messages from the ministries to the companies and none back. Most managers complained about the heavy-handedness of the government (owners), interference in their daily work, instructions against the interest of the company (e.g., reconnect non-paying consumers), endless paperwork requests (this through the FEA), and lack of legal support (vis-à-vis court cases).

In contrast to the foregoing, the companies are satisfied with the law and the ERA. They also would like to finish the process of commercialization and are not happy with the government's intent to privatize them so soon[8]. The example of Chile shows that reform of the regulatory system and the restructuring of state enterprises need to occur first to ensure that the new enterprises had some experience of the regulatory system before privatization (Newbery, ibid). Newbery also argues that "the SBM can make sense as part of program that reforms and privatizes the distributions companies….". and "if generation companies are to be privatized also, there needs to be much attention given to revenue security through long-term PPA's" .

The Mongolian power sector companies and the ERA also wish to have some time in order to become more proficient in management and regulating, respectively, before either would have to deal with new owners and new conditions or demands. Companies are particularly anxious to have time to organize themselves into commercial entities and infuse commercial practices[9]. For this reason, they need and request continuing technical assistance and in a broader context than so far received. To date, technical assistance under USAID sponsorship provided to the companies focussed on four entities: a generating company (UB 4), a distribution company (Darkhan-Selenge) an unconnected generator-distributor (EES at Choibalsan) and a heat supplier (UBHDN - UB Heat Network).

.

The structure of the market is now dominated by State-owned corporations. Once privatization is under way, the ERA will have to play an active role in regulating the market both to promote economic efficiency and to attract private investment, taking into account that investing in infrastructure is a risky business [10].

---

[8] The government has announced a schedule of privatizing energy sector companies. In 2003 this is to include three electricity distribution companies and the UB 2 power plant. The European Bank of Reconstruction and Development has provided a grant to the SPC for marketing the companies to investors.

[9] In Hungary, only one year elapsed between setting up the legal and regulatory system and offering up the distribution companies.

[10] Jadresic, A. and Fuentes, F., 1999, Government strategies to reduce political and regulatory risk in the infrastructure sector, Conf. On Private Infrastructure for Development: Confronting Political and Regulatory Risk, Rome, Italy, Sept. 8-10, 1999.

THE ROLE OF THE GOVERNMENT

The principal role of the government is to ensure that the power sector operates according to the legal framework set forth in the energy law and that the sector is transformed successfully to meet objectives of a market economy. In this regard there are several road blocks to overcome. One is the vestige of Soviet era planning management and that is manifested in the existence and roles of the Fuel and Energy Authority. This entity, having been left out of the energy law for reasons that is holdings have been divested and formed into commercial companies, is still in existence, thanks to the inability of the government to resist political pressure. It came into existence as a result of a governmental resolution, but its roles and functions never saw governmental oversight having been issued by the Minister of Infrastructure on July 19, 2001 (Decree No. 203).

The FEA is an anachronism. It is a governmental institution (implementing agency) that, according to its business rules, can conduct commercial activities (sort of a Chinese model). Its existence is owed to the MOI against a broad spectrum of objectors, that included members of Parliament, the companies' management and likely the ERA[11]. Functions exercised by the FEA are an admixture of government planning (outdated), governmental policy development (that should be in a ministry as in other countries), testing and training, and management of projects under international lending. The latter is especially troublesome, as the companies that have to repay the loans are being directed by an outside organization regarding the scheduling of project work, management of the work and purchasing of equipment of parts. It is contrite that lending institutions, such as the World Bank and the Asian Development Bank, while criticizing the CSM can support this institutional arrangement with the PIU's (project implementation units) housed at the FEA and by that act, slow down the progress of the commercialized sector becoming responsible for its own management and own finances. Parliament should address this matter urgently.

The other perplexing organization is the State Special Supervision Agency (SSA). The SSSA was created when various technical inspection agencies were merged and housed under supervision of the prime Minister's Office. This is another anachronism. Although it may be cost-effective to pull together various technical inspection groups, the law setting out their responsibilities is so poorly worded that it has given the SSSA the temerity to inspect anything (based on Art. 9.2.1 "monitor the implementation of laws, legal acts and other rules based on the laws and legal acts developed by State authorized institutions"). The result is shown in Appendix 6, the SSA's self-developed and self-approved "guidelines" for inspecting the ERA. This is a throwback to communist days. Parliament should urgently oversee the operation of the SSSA, which should be carrying out technical inspections as prescribed by the energy law.

---

[11] Answers to queries about the FEA were often muted due to inherent apprehension that job loss would result from outspokenness.

One recurring concern to the government and donors alike is the "historical debt" of the energy sector. Fortunately, the elevated tariffs now allow the unbundled companies to operate and purchase fuel, however, accumulated debt is still large. This debt has to be viewed as having two aspects. One is the debt accumulated by consumers not paying for services. This arrearage can only be taken care by gradual enforcement of suspending or terminating services to delinquent payers and its also requires that political interference to reconnect for reason such as a "strategic" industry ceases. The remainder has to be worked out by a compromise between the ERA raising tariffs over some period of time to recovery a part of the debt due and unpaid and partly by the companies themselves writing off the other part as not collectable. This has to be done by an agreed upon timeline, and after that the distribution companies will be responsible for collections, successful or not. That is a fact of corporate life.

The second aspect of the overall historical debt has to be viewed from the perspective of whom it is owed to. That portion that is among the companies all having the same owner – namely the State – is internal. One option is that the State simply writes it off the books, thus, the capital structure (equity) of the companies improves and makes them more marketable to private investors. Another option is to include the debt in privatization, but this will require to lower the reserve price in tenders and may bring on concessions and guarantees that investors will insist having. The third option is capital injection. As the government does not have the financial resources for this, it would have to turn to IFI's to obtain a loan, similar to the World Bank's EFSAL (Enterprise and Financial Sector Adjustment Loan) that has been taken out by other countries, such as Hungary, Slovenia and Slovakia among post-socialist states. But it is doubtful, given the indebtedness of the energy sector with respect to international loans, that Mongolia would qualify for new lending. If it were to be workable, the reserve price for assets, such as the distribution companies could be higher than with debt included and that would have to be considered seriously just to attract private investment interest. Still, this scheme will work only if the owner is the same in each enterprise, therefore, liabilities relative to Russia (for power) still have to be paid off. The case of Erdenet, being a joint venture with Russia, also would require a special financial workout.

The second part of the liabilities in the sector pertain to the international loans. These loans, generally on "soft" terms amount to Us $349.6 million as of March 2003 (see Appendix 6). Companies have complained that the on-lending (re-lending) rates of the MF&E are too high. The subject was investigated, as requested, and only in the case of Asian Development Bank loans are the spreads between original and on-lending rates high.

TECHNICAL ASSISTANCE

Technical assistance has been received by the GOM nearly continuously since 1998. Initially the counterpart was the MOI for the period of 1998-2001 during which the energy law and its predecessor versions were composed. From 2001 to now, the

counterparts have been the ERA for matters involving setting up the regulatory system and the SPC for assistance in restructuring and commercialization of the energy sector.

It is this latter period that the review addresses. The tasks of the technical assistance, modified at times, have been as follows:

- *Restructuring the vertically integrated State enterprise – unbundling into independent entities.* This has been accomplished.
- *Establishment of an energy regulatory agency to oversee operation of the entities on both commercial and technical bases*. This has been accomplished.
- *Setting up a licensing regime to ensure that commercial and regulatory commitments are honored and consumer protection is provided*. The licensing regime and associated rules and regulations are largely in place. Consumer protection still has to be developed fully.
- *Development of network operations and access rules.* The Grid Code and Connection Rules are in place but will have to be refined relative to the SBM. Access rules have not been developed as there are no IPP's (Independent Power Producers) wanting to connect to the net.
- *Development of cost-of-service based tariffs to allow for recovery of costs and to provide for new investments in the future, including the deregulation of fuel prices and contract prices between eligible consumers and non-regulated suppliers.* Tariff methodology is in place. Current tariff levels are adequate to recovery current costs, not accrued debt. Deregulation of fuel prices is the responsibility of MOI; no movement has taken place on this matter. Non-regulated consumers do not exist yet.
- *Development of a system competition in generation and perhaps in retail (supply) if economically warranted.* Competition in generation will be difficult to introduce into a small system of disparate capacity and efficiency of generators. This may be possible if new generation comes on line. Retail competition may be achievable realer but that will require setting up non-regulated suppliers, energy traders and moving the import function to regulated suppliers. The law covers these possibilities.
- *Commercialization of the sector entities and preparation for privatization.* The commercialization process is under way. Additional assistance will be needed to assist the preparatory process.
- *Privatization of the State owned commercialized companies with level and timing determined by Government policy*. The USAID technical assistance did not include this task.
- *Introduction of social safety nets or mechanisms for low-income consumers to buffer the impact of reform, particularly new tariff and disconnection policies*. The MOI strategy also addresses "lifeline" tariffs. This is an area where

technical assistance could be given. However, before then, the MOI must determine consumer classes (categories) and prescribed by the law.

The most effective assistance has been in the developing tariff methodology and structure for the ERA and in financial restructuring at four selected companies, namely at the Ulan bator Power Plant No. 4 (UB 4), the Eastern Energy System at Dornot (EES), the Ulan Bator Heat supply company (UBHDN) and the Darkhan-Selenge electricity distribution company (DSEDN). While this work concentrated on financial issues of the companies, a topic of high importance, assistance needs to be a) extended to the remaining 14 companies in perhaps a more condensed form, and b) expanded to include corporate management techniques. Companies are anxious to learn about internal management, risk-opportunity recognition, dealing with customers and the government, marketing and public relations, and foremost in corporate governance. The counterpart should remain the State Property Committee.

The ERA has benefited from the technical assistance, especially in the area of tariff development. Given that changes are being made to the tariff structure and economic dispatch is being introduced, the EA will need help is seeing the system implemented correctly. In a related matter, tariff methodology, structure and levels for aimags and sums also has to be developed. Licenses have to be made permanent, and these, together with regulations have to be modified to reflect the SBM, and expertise in how SBM is regulated in other countries would be very beneficial. The ERA will need help in consumer relations, complaints management, dispute resolution procedures, handling legal cases, enforcement procedures and in instituting, is possible, public hearings. The agency has to develop a better public image and relations with other governmental entities, another area of assistance partly identified already. In the area of administration, the ERA should be supported with information technology for tracking its decisions and for internal management needs, including human resources management[12].

Technical assistance needs to be better coordinated. In establishing rules and regulations, assistance has been disjointed because certain topics have and others have not been addressed and coordination among inputs from different consultants and their impact on the ERA has been weak. The ERA's work in developing the regulatory regime has been better than expected, but incomplete, and on sensitive issues advisors have not worked with the government decision-makers closely to smooth the way for understanding of issues and acceptance of the ERA's procedures.
If changes are to be made to the law, close cooperation must be kept with the Prime Minister's Office, the Standing Committee of Economy and with MOI. This should take place both formally and informally, and should be supplemented by workshops for the Cabinet, Ministries and members of Parliament. DAI had pursued such in the past successfully. Forums such as those can identify trouble spots, be they incomplete or conflicting legislation, conflicting agency roles, or conflicting energy policy objectives. Additionally, future technical assistance should be coordinated with any judicial refom to avoid past pitfalls of conflicting legislation.

[12] The ERA has completed internal procedures for job classification and descriptions and issued rules of ethics. It needs to develop job performance criteria also.

CONCLUSIONS AND RECOMMENDATIONS

Assistance given to the energy sector since 1998 has resulted in several recognizable milestones: the law, the regulatory body, the licensing regime, the regulations and the unbundling of the sector in commercial entities. What needs to be done now is a) giving it time to mature, and b) filling in the voids and completing process under way. This includes helping the ERA to complete and solidify its functions an operations, allowing the SBM to work and assisting the companies to become de facto companies. A few steps can be instituted in the next 12-18 months to liberalize the model more that include separating out the wholesale and CSM functions while introducing a two-part tariff structure and economic dispatching.

The next steps will be introducing some form of competition. This used to be more popular before the California energy crises and the Enron and similar fiascoes, but there is a better chance now to prepare it over some transition period than when the government was pressured by AES. Economies of scale must be evaluated, just as the fiscal and economic viability of the sector companies that may be competing. Theoretically, there is a better chance for competition in retail than in generation given the existing set of power plants, but whether that could be successful or not will depend on the response of consumers[13], and those would have more likely to be commercial and industrial customers[14]. By then, the ERA should have sorted out the service boundaries among the major distributors and many resellers of energy.

It is highly recommended that USAID continue its technical assistance programs supporting the energy sector. Two reasons speak for this: one is that the progress made so far is measurable and the reform should be fully finished; the other is that the reform process needs the outside advice and advisors to prevent internal manipulations from dismantling it.

[13] In the US residential consumers, offered differed service providers, are overwhelmingly staying with their existing arrangements.
[14] A few regulators say that competition in retail will not succeed without competition in generation.

APPENDIX 1.

Memorandum

To: Edward Birgells , USAID Mission Director, Mongolia

CC: William Bikales, Chief of Party, DAI Economic Policy Support Project

From: Paul Teleki

Date: February 9, 2001

Re: Mongolia's New Energy Law

I have reviewed the Energy Law enacted by the Mongolian Parliament. It is an acceptable law and should promote further reforms in the energy sector of Mongolia. As you are aware, prior to the enactment of this Act several sets of comments and recommendations were provided to both the Ministry of Infrastructure and the Standing Committee on Economic Policy with the aim to a) rectify defects in the law especially in regard to the licensing regime, penalty assessment, policy roles and other matters; b) to correct misconceptions about the operation and regulation of the power industry for lack of understanding of the model for the sector; c) to reduce opportunities for interference in the roles of the Regulatory Authority and for collusion by government officials and industry, and d) to continuously guide the process to converge toward what was originally delivered to the Government in November 1999 and what was then a thoroughly developed piece of legislation backed by comprehension of the concepts and procedures by partially trained future native regulators. It is gratifying that most of the comments are recommendations were accepted and used by the Standing Committee during deliberations of the text of this law fundamentally resurrecting the original concepts so that the remaining, problematic passages are few and are not as serious as were in earlier drafts. As a result, the law provides a good basis for establishing a workable regulatory regime for the Mongolian power sector and will lay the foundation for unbundling and future privatization, should the Government decide to proceed in this direction.

The following are my observations and comments regarding the final Act:

The Law:

1. Is based on economic rationale, commercial (market) relationships and on rights and obligations for both the industry and the consumers regulated by an independent agency.

2. Clearly establishes the framework for licensed operations based on operational and economic criteria. As licenses will be designated by type of operation or service, the law effectively induces an unbundling of the sector. Unbundling will have two important effects: a) the elimination of cross-subsides among various divisions of the current Energy Authority together with the reallocation of rural power subsidies, and b) it will accelerate the corporatization of the unbundled entities;
3. Establishes the Regulatory Authority (RA) with sufficient autonomy to make decisions and to regulate without undue interference. The functioning of the RA could take place in a reasonable short time (about 6-8 months) provided that the individuals trained earlier can be reassigned from other occupations, rather than new personnel found and trained, and that draft documentation prepared in 1999 concerning the RA's functions, organizational scheme, and job descriptions can be put to use and finalized. The concurrent task will be to develop licensing procedures and issue licenses, and to develop all related secondary legislation.
4. Explicitly describes tariff setting procedures for electricity and heat supply and assigns this role exclusively to the RA. This is quite an accomplishment; few post-Soviet countries' regulatory bodies have such power. This will minimize political interference. Although the fuel prices controlled by the Ministry of Infrastructure will present an impediment to setting prices on an economic (cost-of-service) basis, a gradual adjustment on the tariff structure and levels should improve chances for investments into the sector.
5. Assigns responsibility of regulating unconnected local power generation and supply to aimag governors that should impel them to become responsible for the financial management of those facilities instead of relying on subsides completely by the Energy Authority and the Government.
6. Pares back the role of the Ministry of Infrastructure, as overseer of the power and heating sector to proper, policy-oriented levels of responsibility, such as approving procedures initially, rather than having veto power over the RA. The law provides for more diverse policy decision-making functions for the Ministry than provided for in the previous law. All efforts to retain hands-on management of the industry, through ownership, appointments to boards, and other means have been countered and such provisions promulgated in earlier draft have been eliminated.
7. Appoints regulators on staggered terms. This is a necessary and welcome provision in this law, because it lessens chances for collusion in regulatory decisions. Implementing orders should still specify unambiguously the criteria for appointing and dismissing regulators; a provision that was recommended but was not inserted into the text.
8. The provision (Article 10) added late during deliberation about the roles of the National Dispatching Center in implementing governmental energy policy is farcical. A dispatcher's job is to ensure that the power loads are balanced (shortages are minimized). This is strictly a technical operation. It certainly has no business operating as a quasi-governmental agency which, at the same time, becomes incorporated and will have to operate as any other commercial entity,

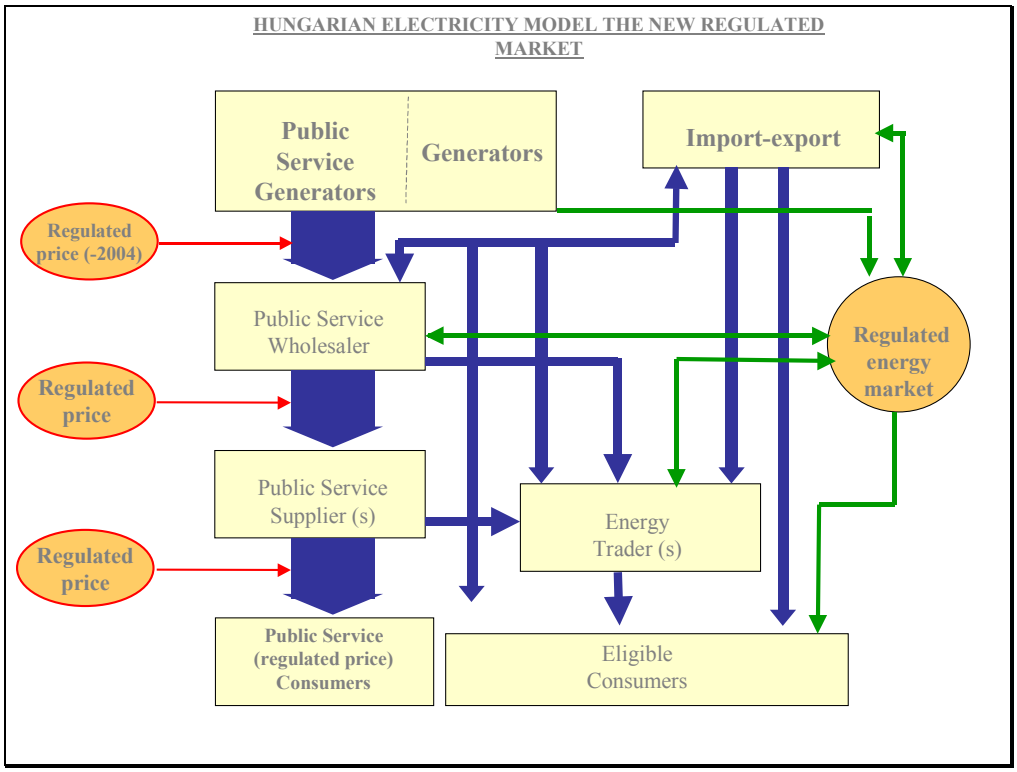
and subject licensing and regulatory oversight, a contradiction of roles. This provision will have be struck from the law by an amendment.

9. Provides for protection of consumers. Consumer protection is not only guaranteed in the law itself, but also by mandating the RA to set up consumer advisory councils. At the same time, obligations of consumers are defined in detail. Secondary legislation should further amplify consumer rights and obligations, much the same as for licensees. Because proceeding of the RA will be open to the public, this will provide for public participation, that may be novel to the public at large.
10. Allows for consumers to be classified according to consumption characteristics. This provision will permit differentiation between large and small consumers, day and night consumption, and other tariff levels. As such its sets the stage for appropriate pricing of electricity and heat, to replace the current system of inverted pricing of no economic rationale. In addition, special tariffs for the disadvantaged can be set aside, which should mitigate concerns of the Government that the poor will not be able to afford power and heat services.
11. Introduces the possibility of competition in retail by differentiating between regulated prices (for which the RA will be licensing regulated suppliers) and contract prices (i.e., through non-regulated suppliers licenses). Whether competition is appropriate to the Mongolian power sector, and whether it should begin at the generating level or the retail level, are issues yet to be decided, still, the law lays the foundations for this option.
12. Significantly, provides the supplier of power and heat a clear legal basis to suspend service to non-paying customers. This is an important stipulation and is founded on a contractual agreement between supplier and consumer. This, at least in legal terms, terminates the Government's practice of intervening in this matter in ad hoc manner, i.e., the supplier has other options than behaving according to political want. The prevailing financial problems of the Energy Authority in accumulating arrears (receivables) are due in part to having to supply power to non-paying large customers (such as Erdenet), and in part by the lack of threat for residential and business consumers that their power could be cut off if they fail to pay for it within a specified time.
13. Includes roles and responsibilities for technical inspection. After considerable variations on the theme, acceptable provisions were included in the law that will not interfere with the role of the RA.
14. Sets fines. The penalty provisions are typical Mongolian practice to include in the law, otherwise, it is said, their enforcement would be difficult to carry out. Penalties for theft, a prevalent problem, were correctly assigned to prosecution under the Criminal Code. The original intent was to have the RA establish fines case by case for non-compliance with license terms, applied to licensees (corporations) and not to individuals. However, individuals (and separately officials of companies) can be fined under this law, an uncommon practice for this type of legislation in other countries. The pre-set penalties hinder the RA from setting its own scale of fines in cases of non-compliance with license terms, and the fines should be considerable higher than the amounts provided for in the law (e.g., $14-$57 for individuals, $100-250 for companies) to be detrimental to

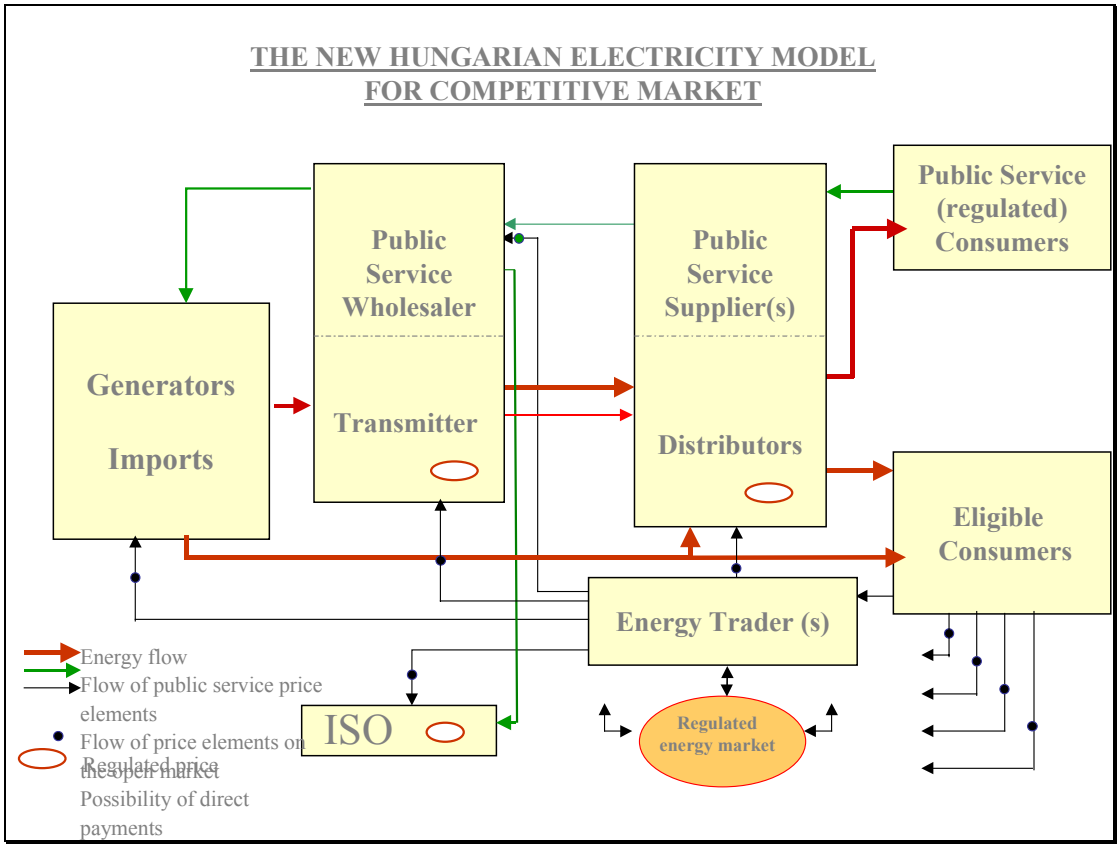
committing the same again. This provision will have to be amended in the future.

In summary, this is a law that we can live with and that merits support. We wrote most of it and it reflects most of the progressive concepts we tried to convey during the past years. The few anachronisms that remained can either be dealt with through amendments or will most likely fail to work for reasons that they are ill-founded and thus may be ignored.

APPENDIX 2.


HUNGARIAN ELECTRICITY MODEL THE NEW REGULATED MARKET
Public Service Generators
Generators
Import-export
Regulated price (-2004)
Public Service Wholesaler
Regulated energy market
Regulated price
Public Service Supplier (s)
Energy Trader (s)
Regulated price
Public Service (regulated price) Consumers
Eligible Consumers

APPENDIX 3.


THE NEW HUNGARIAN ELECTRICITY MODEL
FOR COMPETITIVE MARKET
Public Service (regulated) Consumers
Public Service Wholesaler
Public Service Supplier(s)
Generators
Imports
Transmitter
Distributors
Eligible Consumers
Energy Trader (s)
ISO
Regulated energy market
Energy flow
Flow of public service price elements
Flow of price elements on the open market
Regulated price
Possibility of direct payments

APPENDIX 4. Cash settlement among companies. Upper table : Cash flows allocation from "zero" balanced accounts
Lower table: Cash flow allocation from “united” accounts.

Licensees	Electricity to be purchased (thousand kW-h)	Purchase tariffs (MNT/kW-h)	Technical loss, %	Average selling price (MNT/kW-h)	Off-sets (MNT thousand), (May-Oct)	Revenues required for the Dispatcher (MNT thousand)	Revenue collection plan, %	% of revenues to be transferred to the united revenue account	Allocation			
									to Dispatcher	to distribution network	to united revenue account	Total
UBEDN	465,619.2	27.00	29.80%	46.43	3,023,200.0	86,050.0	97.70%	78.6%	**0.72%**	**20.24%**	**79.04%**	100.00%
DSEDN	161951.7	27.46	26.10%	44.01	1,342,100.0	30,050.0	88.83%	79.1%	**0.86%**	**17.79%**	**81.35%**	100.00%
ErdEDN	449810.1	37.79	3.50%	43.25	2,087,600.0	87,050.0	82.70%	89.4%	**0.63%**	**8.28%**	**91.09%**	100.00%
BEDN	91647.7	30.93	18.14%	45.63	1,634,500.0	22,000.0	96.30%	67.1%	**1.28%**	**30.46%**	**68.26%**	100.00%
Total	1169028.7	31.52	18.25%	44.62	8,120,200.0	225,150.0						

Licensees	Electricity to be sold (thousand kW-h)	Tariffs (MNT/kW-h)	Off-sets (MNT thousand), (May-Oct)	Revenues required (MNT thousand)	Revenue to be centralized at the united revenue account (MNT thousand)	Allocation			
						to generators	to transmission network	to Russia	Total
PP #2	36,000.0	32.30	497,100.0	1,162,800.0	665,700.0	**4.74%**			

PP#3	199,000.0	42.96	1,112,800.0	8,549,040.0	7,436,240.0	**24.50%**			
PP #4	792,000.0	23.25	5,030,000.0	18,414,000.0	13384000.0	**42.99%**			
Dar PP	84,000.0	36.46	814,500.0	3062640.0	2248140.0	**7.56%**			
Erd PP	37,000.0	40.72	358,700.0	1506640.0	1147940.0	**3.86%**			
Transco			307,100.0	2221154.5	1914054.5		**6.43%**		
Import	74,493.8	39.64		2952751.5	2952751.5			**9.92%**	
Total	1,222,493.8	30.98	8,120,200.0	37869026.0	29748826.0				100.00%

APPENDIX 5 . Guidelines for Inspecting the Energy Regulatory Authority

A. Objectives of inspection

The State Specialized Supervision Agency (SSSA) is to supervise activities of the Energy Regulatory Authority in accordance with the approved supervision plan for 2003. The objectives of the current inspection are: to supervise implementations of the Energy Law, Law on State Audit and other relevant legal acts and Government resolutions and programs; to check financial activities including budget spending and tax obligations, issues related to the assets; and to eliminate breaches if revealed during the inspection.

B. Members of the inspection team

1. H. Avirmed, senior state inspector of energy supervision,
2. G. Dorj, state inspector of energy supervision,
3. I. Ochirbat, state inspector of energy supervision,
4. Z. Tsedenjav, state inspector of financial supervision.

C. Period of inspection

The inspection shall be carried out within 10 working days commencing on March 10th, 2003.

D. Main directions:

1. Activities on issuing, amending, suspending and revoking the licenses; relevant resolutions and their implementations, status of the documentation;
2. Activities on resolving disputes between licensees and disputes between licensees and consumers,
3. Setting the operational and licensing terms and requirements, status of monitoring with regard to compliance and relevant documentation,
4. Implementation of activities on developing the tariff methodology, defining the structure of tariffs, reviewing, approving, inspecting and publishing tariffs of licensees,
5. Current status on establishing and monitoring the pricing and tariff system that enables supply of energy at the lowest possible cost and allows an adequate rate of return,
6. Activities on establishing a database of technical and economic information and information on licensed activities, registering contracts made between unregulated licensed suppliers and consumers, approving the Business Rules of licensees, and approving connection instructions of licensees and consumers to electricity and heat transmission and distribution networks,

7. Status of implementations of the resolutions issued by the Regulatory Board Meeting, and monitoring activities,
8. Activities on providing technical and methodological guidance to Regulatory Boards of aimags and the capital city,
9. Status of implementations of other rights and duties stated in the articles of association of the ERA,
10. Status of compliance with implementation of resolutions and decisions issued by the Government and other authorities, current achievements in implementations,
11. Internal procedures of the ERA and their implementations, decisions on solving the social issues of employees,
12. Status of accounting and financial reporting, assets' registry,
13. Inspections of cash operations via bank accounts and cashiers, salary statements, changes in assets, revenue and expense transactions against the documents,
14. Status of the fixed assets and inventory taking, relevant estimates including depreciation and etc.
15. Receivables and payables, relevant documentation, reflections in the financial statements,
16. Appropriateness of budget spending compared with the budget plan, status of budgetary revenues consisting of all the fees and regulatory charges,
17. Number of employees, wage fund, setting the salaries, pensions, social allowances, performance compensations, their compliance with the relevant legal acts,
18. Status of spending foreign currencies, sources of projects financed externally,
19. Status of compliance with the requests and opinions stipulated in the statements of the previous years' inspections,
20. Status of utilization of vehicles and equipment, technical services, current situation of a farm if there is any.

E. Results of inspection and following actions

1. As a result of inspection, status of implementation of laws and legal acts will be assessed; inspection statements on each breach revealed and the general statement will be prepared; the inspection report with recommendations to improve situations will be issued and discussed at the Board of the Deputy Director of the SSSA. The actions on implementation of the recommendations will be carried out.
2. Results of the inspection will be transparent to public.

Prepared by:

1. H. Avirmed, senior state inspector of energy supervision,
2. G. Dorj, state inspector of energy supervision,

3. Ochirbat, state inspector of energy supervision,
4. Z. Tsedenjav, state inspector of financial supervision.

Reviewed by:

E. Tuvshinchuluun, Senior state inspector, Director of the Energy Supervision Department

Agreed by:

G. Zinaamyadar, First Deputy Director, SSSA
B. Baasan, Deputy Director of SSSA

Approved by: D. Batbaatar, Director of the State Specialized Supervision Agency

APPENDIX 6. Loan Agreements of the Energy Sector

Lender	Borrower	Purpose	Date of original loan	Amount in and original denomination	Amount in US $	Amortization schedule (years)	Grace period (years)	Interest rate	Payment schedule	Repay start date	MF&E Re-lending rate	Comments
Nordic Development Fund	GOM	UB PP 3 rehabilitation	3/3/95	SDR 4,000,000	5,424,000	20	4	N/A	N/A	N/A	6.11%	Part of ADB loan (next entry)
ADB	GOM ↓ CES	Power rehab. Project UB PP3	17/05/95	SDR 27,142,000	36,826,265	30	3	1.0% for the first 10 yrs, and 2.0% for the next 20	Semi-annual	15 May 2005	6.11%	+ GEF
OECF	GOM→ Ministry of Energy	UB-PP4 rehabilitation Project	23/10/95	JY 4,493,000,000	38,037,460	20	10	2.3%	Semi-annual	20 Oct. 2005	2.50%	
Kreditanstalt fur Wierderaufbau, (KfW) Frankfurt	GOM	Darhan Emergency District Heat Supply	13/09/93	DM 9,000,000 (600,000 of it grant)	3,679,200 without grant	30	10	0.75%	Semi-annual	30 Dec. 2003	0.75%	Commitment: 0.25% p.a. on undrawn
Ministry of Finance (KfW re-loan)	EA	Darhan Emergency District Heat Supply	07/07/98	DM 9,000,000	4,710,562	20	3	0.75%	Semi-annual	15 June 2001	0.75%	Payment due in free convertible currencies
Ministry of Finance (KfW re-loan)	EA	Darhan-II Emergency District Heat Supply	20/09/95	DM 5,000,000	2,623,295	20	3	0.75%	Semi-annual	15 Dec, 2003	0.75%	Payment due in free convertible currencies
ADB	GOM	UB Heat Efficiency Project	09/12/97	SDR 29,487,000	40,007,961	30	5	1% for the first 10 yrs, 2% for the next 20 yrs	Semi-annual	15 Oct, 2007	N/A	$3 million from Spanish Government
ADB	GOM	Energy Conservation Project	11/08/97	SDR 6,944,000	9,421,619	30	4	1% for the first 10 yrs, 2% for the next 20 yrs	Semi-annual	15 Apr, 2007	Variable -5% in 2002-	Re-loaned by MF&E with start date of 15 Dec 2001 for 24 yrs.

Eximbank (Korea)	GOM	Cogeneration Power plant Construction Dalanzadgad	09/06/97	KW 6,290,000,000	8,001,119	15	5	3.0%	Semi-annual	20 Dec, 2002	4.00%	0.1% commitment fee
Kreditanstalt fur Wierderaufbau, (KfW) Frankfurt	GoM EA	Emergency District Heat Supply, Choibalsan	04/06/98	DM 15,000,000	7,850,937	20	3	0.75%	Semi-annual	30 Dec, 2008	N/A	0.25% commitment fee

World Bank, IDA		Distribution network loss reduction	Dec. 2002		36,200,000	40	10	0.75%	Semi-annual	Dec. 30, 2002	N/A	Local financing- $6,240,000
Kreditanstalt fur Wierderaufbau, (KfW) Frankfurt	Trans-mission Co. (CTN) National Dispatch Center	Energy Project-1, SCADA		Euro 8,100,000	11,100,000			3%	Semi-annual	March 01, 2003	N/A	Local financing $3, 000,000
Kuwait Fund, Abu-Dhabi Fund	Gobi-Altai, Ulaanbom				38,900,000			N/A		May, 2003 Bidding	N/A	1. Kuwait Fund $20,000,000 2. Abu-Dhabi Fund $13,000,000 3. Local financing $5,900,000
SIDA	GOM ↓ CTN	Rehabilitation of transmission network	Not approved yet by the Swedish Gov.		10,000,000			N/A			N/A	1. Grant and loan from the Swedish Gov. $8,000,000 2. GOM $2,000,000
Japanese Government	GOM ↓ UB PP-4	2nd stage of the rehabilitation project UB PP4	26 Mar. 2001	JY 6,138,500,000	60,000,000	40	10	0.75%	Semi-annual		1.11%	Repayment 27 yrs, grace period 7 yrs.
Gov of Germany KfW	GOM ↓ EES	2nd stage of the PP rehabilitation project		DM 6,000,000	3,000,000	24	3	0.75%	Semi-annual	1 June 2001	N/A	
Japanese Gov. JBIC	GOM ↓ Shivee-Ovoo coal mine	Mine development project		JY 4,298.000,000	36,400,000			N/A			N/A	Ongoing project
Gov. of German y	GOM	2 nd stage of the training program for PP employees		DM 5,000,000	2.,900,000			N/A			N/A	Local contribution – GOM $415,000